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EXAMINER

RUBY, TRAVIS C

ART UNIT	PAPER NUMBER
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3744

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/563,796	Applicant(s) BOUCHALAT ET AL.	
	Examiner TRAVIS RUBY	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed 4/19/2010, with respect to the rejection(s) of claim(s) 1-29 under 103(a) have been fully considered and are persuasive. Therefore, the final rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Shibata under 102(b).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 1 recites in line 3 "at least one heating apparatus". It is unclear as how this relates to the previously recited "a heating apparatus" in line 2 of Claim 1 rendering the claim indefinite.

5. Claim 1 recites in line 3 a "predefined flow path" and then in line 4 "a first flow path" and then in line 5 recites "a second flow path". It is not clear how these first and second flow paths relate to the first recited predefined flow path.

6. Regarding claim 3, the phrase "and the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "and the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

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7. Claim 6 recites the limitation "the cross section" in line 2. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 7 recites the limitation "the cross sectional shape" in line 2-3. There is insufficient antecedent basis for this limitation in the claim.

9. Claim 11 recites the limitation "the cross section" in line 4. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 13 recites the limitation "the buffer plates" in line 2. There is insufficient antecedent basis for this limitation in the claim.

11. Regarding claim 13, the phrase "and combinations of the latter" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "combinations of the latter"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

12. Claim 15 recites the limitation "the external wall" in line 3. There is insufficient antecedent basis for this limitation in the claim.

13. Claim 16 recites the limitation "the heat exchanger surface" in line 3. There is insufficient antecedent basis for this limitation in the claim.

14. Claim 16 recites the limitation "the motor vehicle" in line 4. There is insufficient antecedent basis for this limitation in the claim.

15. Claim 18 recites the limitation "the passenger compartment" in line 3. There is insufficient antecedent basis for this limitation in the claim.

16. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim

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does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, **Claim 13** recites the broad recitation "a basic shape", and the claim also recites "which is selected from a group of shapes which contains squares, rectangles, circles, ellipses, polygons" which is the narrower statement of the range/limitation. **Claim 17** recites the broad recitation "one fan", and the claim also recites "in particular an electric fan" which is the narrower statement of the range/limitation. **Claim 20** recites the broad recitation "the actuating device is continually adjustable", and the claim also recites "in particular closed-loop and/or open-loop controlled depending on position" which is the narrower statement of the range/limitation. **Claim 25** recites the broad recitation "device for filtering air", and the claim also recites "in particular in the region of the inlet is provided" which is the narrower statement of the range/limitation. **Claim 26** recites the broad recitation "an closed-loop or open-loop control device which performs closed-loop or open-loop control on", and the claim also recites "in particular the quantity of air flowing through is provided on the at least one inlet and/or outlet for the air" which is the narrower statement of the range/limitation. **Claim 29** recites the broad recitation "are arranged basically one behind the other in the flow

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path”, and the claim also recites "in particular at least one element and/or assembly can be removed from the main flow path of the air by means of a bypass" which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 102

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

18. Claims 1-6, 8-24, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Shibata (US20020170707A1).

Re Claim 1. Shibata teaches an installation arrangement for an air-conditioning system with a heating apparatus (ref 13) having at least one housing (ref 10) in which air is fed in an at least partially predefined flow path (Figure 1, Paragraph 21), and

which has at least one heating apparatus (ref 13) and at least one actuating device (ref 33), with the heating apparatus being arranged in a first flow path and the actuating device being arranged at least partially in a second flow path (Figure 1, Paragraphs 51-52),

wherein in at least a first position the actuating device causes substantially all air in the flow path to flow through the first flow path and the heating apparatus and in at least a second position, the actuating device permits air to flow through the second flow path without restricting airflow through said first flow path (Paragraphs 51-52; Figure 1).

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Re Claim 2. Shibata teaches the housing has at least one inlet (Paragraph 23) and at least one outlet (ref 35, 36) for the air (Paragraph 53-54).

Re Claim 3. Shibata teaches the heating apparatus (ref 13) is selected from a group of heating apparatuses which contains heat exchangers, CO2 heat pumps, heaters which use exhaust gas heat, fuel heater, condensers, stationary-mode heaters, electric heaters, PTC heaters and the like (Paragraph 45).

Re Claim 4. Shibata teaches the heating apparatus has a core which conducts heat and whose heat exchanger surface is formed by baffle plates which are arranged at a predefined angle to the main direction of extent of the core, in a heat-conducting fashion on a surface of said core (Paragraph 45-46; Figure 1).

Re Claim 5. Shibata teaches that at least part of the surface of the heat-conducting core has a flow of air around said heat conducting core (Paragraph 45-46; Figure 1).

Re Claim 6. Shibata teaches the cross section of the heat-conducting core is such that the flow of the air at least along part of the surface of the heat-conducting core is essentially laminar (Paragraph 45-47).

Re Claim 8. Shibata teaches a cross section through which some of the air which flows through the heating apparatus (ref 13) flows is formed between the heat-conducting core and an

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element (ref 32) which adjoins the heating apparatus and at least partially bounds the first flow path (Paragraph 51-52; Figure 1).

Re Claim 9. Shibata teaches a third flow path (ref 27) through which a heating medium (i.e. water) flows is arranged within the heat-conducting core (Paragraph 48).

Re Claim 10. Shibata teaches the heating medium (water) is a fluid (Paragraph 45-48).

Re Claim 11. Shibata teaches the heating medium which flows through the heat-conducting core brings about a temperature gradient across the cross section of the core (Paragraph 45-48, Heat exchangers by nature have a temperature gradient).

Re Claim 12. Shibata teaches a temperature gradient of the heat-conducting core is at least partially parallel with a temperature gradient of the air which flows through the heating apparatus (Paragraph 45-48, 51-52; Figure 1; A heat exchanger in view of thermodynamics would have a temperature gradient when two mediums are exchanging heat).

Re Claim 13. Shibata the buffer plates of the heat exchanger surface have a basic shape which is selected from a group of shapes which contains squares, rectangles, circles, ellipses, polygons, and combinations of the latter (Figures 1-2; Paragraph 45-48).

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Re Claim 14. Shibata teaches the heating apparatus is arranged in a bypass duct (Paragraph 51-52; Figure 1; The heating apparatus is in an alternate flow path of the normal air flow).

Re Claim 15. Shibata teaches the heating apparatus is arranged at a predefined distance from the external wall of the housing (Paragraph 45-48, 51-52; Figure 1 illustrates the heating apparatus is a distance from the external wall).

Re Claim 16. Shibata teaches the heat exchanger surface of the heating apparatus assumes a predefined angle to the longitudinal axis of the motor vehicle (Paragraph 51-52, Figure 1 illustrates the heat exchanger is horizontal).

Re Claim 17. Shibata teaches at least one fan (ref 1 and 3), in particular an electric fan, which promotes the movement of air through the device within at least one flow path is provided in the housing (Paragraph 22; Figure 1).

Re Claim 18. Shibata teaches the air is fed directly and/or indirectly into the passenger compartment of a motor vehicle through the outlet (Paragraph 53-54; Figure 1).

Re Claim 19. Shibata teaches the actuating device (ref 33) can be moved into at least two positions (Paragraph 51-52; Figure 1).

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Re Claim 20. Shibata teaches the actuating device (ref 33) is continuously adjustable, with the proportion of air which is fed through the heating apparatus and/or past the heating apparatus being changed and in particular closed-loop and/or open-loop controlled depending on the position (Paragraph 51-52, 57-59).

Re Claim 21. Shibata teaches a second actuating device (ref 40) which essentially prevents a flow of air counter to the main direction of flow of the first flow path is arranged downstream of the heating apparatus in the first flow path (Paragraph 53-54).

Re Claim 22. Shibata teaches the second actuating device is embodied in such a way that it is at least partially opened by the air flowing through the heating apparatus in the main direction of flow (Paragraph 53-54).

Re Claim 23. Shibata teaches the second actuating device has a actuating element which at least partially counteracts an opening movement of the actuating device (Paragraph 53-54).

Re Claim 24. Shibata teaches the actuating devices are selected from a group of actuating devices which contains flaps, swinging flaps, segmented flaps, wing flaps, shutters, and iris shutters (Paragraph 51-54).

Re Claim 29. Shibata teaches the individual elements and/or assemblies of the device are arranged basically one behind the other in the flow path, in which case in particular at least one

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element and/or one assembly can be removed from the main flow path of the air by means of a bypass (Figure 1; Paragraph 51-53).

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata (US2002/0170707A1) in view of Hessari (US4287945).

Re Claim 7. Shibata teaches a heat exchanger but fails to specifically teach the cross sectional shape of the heat-conducting core is asymmetrical. Hessari teaches an asymmetrical heat exchanger (Figure 2, Column 2 lines 6-22, Column 3 lines 12-19). In view of Hessari's teaching it would have been obvious to one of ordinary skill in the art at the time of invention to include an asymmetrical heat exchanger to Shibata's air conditioner since it provides for a more efficient heat exchange and thus improves performance.

21. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata (US2002/0170707A1) in view of Smith et al (US2004/0182562A1).

Re Claim 25. Shibata fails to teach a device for filtering air, in particular in the region of the inlet is provided.

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Smith et al teaches a filter (ref 66) for a heat exchanger used for a vehicle heating and air conditioning apparatus (Paragraph 27, Figure 1).

In view of Smith et al's teachings, it would have been obvious to one of ordinary skill in the art at the time of invention to include a filter to Shibata's air conditioner because it keeps the system operating at maximum efficiency by preventing the heat exchanger coils from getting clogged. In addition, a filter can remove air borne contaminants from the air supply.

Re Claim 26. Shibata fails to specifically teach a closed-loop or open-loop control device which performs closed-loop or open-loop control on, in particular, the quantity of air flowing through is provided on the at least one inlet and/or outlet for the air.

Smith et al teaches a closed-loop or open-loop control device which performs closed-loop or open-loop control on, in particular, the quantity of air flowing through is provided on the at least one inlet and/or outlet for the air (Paragraph 37, Figure 10).

In view of Smith et al's teachings, it would have been obvious to one of ordinary skill in the art at the time of invention to include a controller with Shibata's air conditioning apparatus since it allows for optimal and efficient control over the positioning of the vent doors and the air temperature.

Re Claim 27. Shibata teaches an air conditioner in a vehicle but fails to specifically teach that the air is fed at least partially along a dividing wall adjoining an internal combustion engine, and in that at least one heating apparatus is arranged in particular in this region.

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Smith et al teaches that the air is fed at least partially along a dividing wall adjoining an internal combustion engine, and in that at least one heating apparatus is arranged in particular in this region (Paragraph 9 and 23. Figures 1 and 2).

In view of Smith et al's teachings it would have been obvious to one of ordinary skill in the art at the time of invention to include an air supply that goes through a dividing wall to Shibata's vehicle air conditioning apparatus since it allows outside air to enter inside the vehicle cabin which is also common knowledge of how a vehicle air conditioner works. It would have been obvious to one of ordinary skill in the art at the time the invention was made to locate the heating apparatus near the engine dividing wall, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

22. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata (US2002/0170707A1) in view of Hashimoto (US2005/0126773A1).

Re Claim 28. Shibata fails to specifically teach the device has at least one sensor which is selected from a group of sensors which determine the temperature, pressure, speed, or the position of a component.

Hashimoto teaches the device has at least one sensor (ref 31) which is selected from a group of sensors which determine the temperature, pressure, speed, or the position of a component (Paragraph 27).

In view of Hashimoto's teachings, it would have been obvious to one of ordinary skill in the art at the time of invention to include a temperature sensor to Shibata's air conditioning

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system because it allows the air conditioner to operate at its optimum efficiency by measuring the air temperature and responding accordingly.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRAVIS RUBY whose telephone number is (571)270-5760. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules or Cheryl Tyler can be reached on 571-272-6681 or 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Travis Ruby/
Examiner, Art Unit 3744

/Frantz F. Jules/
Supervisory Patent Examiner, Art Unit 3744